

IN THE CLAIMS:

1. (Currently Amended) An extruder cutting blade arrangement, comprising:

a blade body connection portion;

a blade body portion with a leading edge with a cutting blade portion and an upper leading surface and a lower leading surface extending from said leading edge to a an upper transition zone and a lower transition zone respectively provided followed by an upper trailing surface and a lower trailing surface respectively and a blade body trailing edge and ~~an~~ the upper and lower trailing surface extending from said upper and lower transition zone respectively to said trailing edge, said upper ~~an~~ and lower trailing surfaces ~~converging to form a hydrodynamically shaped blade body portion surface converging at said trailing edge, the upper~~ trailing surface leading from the upper transition zone to the trailing edge is formed so as to be curved as it converges with the lower trailing surface and the lower trailing surface is formed as a curved surface with a first curved part and a second curved part, whereby the two curved portions with different centers of curvature form a curved trailing surface with the degree of convergence with the upper trailing surface increasing toward the trailing edge.

2. (Currently Amended) An extruder cutting blade arrangement, according to claim 1, wherein said hydrodynamically shaped blade body portion includes said upper trailing surface and said lower trailing surface converging to form a continuously diminishing cross section from said upper and lower transition zone to said trailing edge.

3. (Currently Amended) An extruder cutting blade arrangement, according to claim 1, wherein said upper leading surface extends upwardly and in a trailing edge direction from said leading edge to said upper transition zone and said lower trailing leading surface extends substantially rearwardly and in a trailing edge direction from said leading edge to said lower transition zone.

4. (Currently Amended) An extruder cutting blade arrangement, according to claim 1, wherein said blade body portion with a leading edge with a cutting blade portion has a sickle shape.

5. (Currently Amended) An extruder cutting blade arrangement, according to claim 4, wherein said sickle shape includes said cutting blade portion progressing from a leading location toward a trailing location as it extends radially outwardly from said blade body connection portion.

6. (Currently Amended) An extruder cutting blade arrangement, according to claim 1, for application in an underwater pelletizer, further comprising:

a shaft;

a pelletizer fluid passage structure forming a fluid coolant flow passage, said shaft being supported relative to said fluid passage with said shaft extending into said fluid coolant flow passage;

a pelletizer die plate with a plastic extrudate side in said fluid coolant flow passage; and
an extruder cutting blade with a blade body connection portion connected to said shaft
and a blade body portion with a leading edge with a cutting blade portion and an upper leading
10 surface and a lower leading surface extending from said leading edge to a an upper transition
zone and a lower transition zone respectively provided followed by an upper trailing surface
and a lower trailing surface respectively and a blade body trailing edge and an the upper and
lower trailing surface extending from said upper and lower transition zone respectively to said
trailing edge, said upper and lower trailing surfaces surface converging at said trailing edge to
15 form a hydrodynamically shaped blade body portion with said pelletizer die plate being
disposed such that the polymer material is extruded into the fluid coolant flow passage and is
cut by said blade.

7. (Currently Amended) An ~~underwater pelletizer~~ arrangement according to claim 6,
wherein said hydrodynamically shaped blade body portion includes said upper trailing surface
and said lower trailing surface converging at said trailing edge to form a continuously
diminishing cross section from said upper and lower transition zone to said trailing edge.

8. (Currently Amended) An ~~underwater pelletizer~~ arrangement according to claim 6,
wherein said upper leading surface extends upwardly and in a trailing edge direction from said
leading edge to said upper transition zone and said lower trailing leading surface extends
substantially rearwardly and in a trailing edge direction from said leading edge to said lower

5 transition zone.

9. (Currently Amended) An underwater pelletizer arrangement according to claim 6, wherein said blade body portion with said leading edge with the cutting blade portion has a sickle shape with the blade of said cutting blade portion progressing from a leading location toward a trailing location as it extends radially outwardly from said blade body connection
5 portion.

10. (Currently Amended) An extruder cutting blade, comprising:

a blade body connection portion;

a blade body portion with a leading edge with a cutting blade portion and upper and lower leading surfaces extending from said leading edge to a an upper transition zone and a
5 lower transition zone respectively followed by upper trailing surface and lower trailing surface
respectively and a blade body trailing edge and an the upper and lower trailing surface extending from said upper and lower transition zone respectively to said trailing edge, said upper and lower trailing surface converging at said trailing edge, the upper trailing surface leading from the upper transition zone to the trailing edge is formed so as to be curved as it
10 converges with the lower trailing surface and the lower trailing surface is formed as a curved surface with a first curved part and a second curved part, whereby the two curved portions with different centers of curvature form a curved trailing surface with the degree of convergence with the upper trailing surface increasing toward the trailing edge said cutting blade having a

sickle shape.

11. (Original) An extruder cutting blade, according to claim 10, wherein said sickle shape includes said cutting blade portion progressing from a leading location toward a trailing location as it extends radially outwardly from said blade body connection portion.

12. (Currently Amended) An extruder cutting blade, according to claim 11, wherein said upper and lower trailing surface extend from said upper and lower transition zone respectively to said trailing edge and said upper and lower trailing surfaces surface converge at said trailing edge to form a hydrodynamically shaped blade body portion.

13. (Currently Amended) An extruder cutting blade, according to claim 10, wherein said upper and lower trailing surfaces surface converge at said trailing edge to form a continuously diminishing cross section from said upper and lower transition zone to said trailing edge.

14. (Currently Amended) An extruder cutting blade, according to claim 12, wherein said upper leading surface extends upwardly and in a trailing edge direction from said leading edge to said upper transition zone and said lower trailing leading surface extends substantially rearwardly and in a trailing edge direction from said leading edge to said lower transition zone.

15. (New) An extruder cutting blade comprising:

a connection portion;

5 a blade portion attached to said connection portion, said blade portion including a leading edge and a first leading surface extending from said leading edge to a first transition zone in a trailing direction, a first trailing surface extends from said first transition zone in said trailing direction to a trailing edge, said blade portion also including a second leading surface extending from said leading edge to a second transition zone in said trailing direction, a second trailing surface extends from said second transition zone in said trailing direction to said trailing edge, said first and second trailing surfaces having a convex curve.

16. (New) An extruder cutting blade according to claim 15, wherein:

said first and second trailing surfaces have said convex curve continuously from respective said transition zones to said trailing edge.

17. (New) An extruder cutting blade according to claim 15, wherein:

said convex curve of said second trailing surface is shaped to converge with said first trailing surface, a degree of convergence of said second trailing surface increases toward said trailing edge.

18. (New) An extruder cutting blade according to claim 15, wherein:

said second trailing surface includes a first curved part and a second curved part with

different centers of curvature, said second trailing surface having a degree of convergence with said first trailing surface that increases toward said trailing edge.

19. (New) An extruder cutting blade according to claim 18, wherein:

said two curved parts with different centers of curvature form said degree of convergence that increases toward said trailing edge.